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THE DENTAL PRACTITIONER

monthly journal for the Practitioner and his Staff

VOL. I, NO. 11 JULY, 1951

Incorporating the Official Supplement of
The Dental Laboratories Section of the Surgical Instrument Manufacturers' Association

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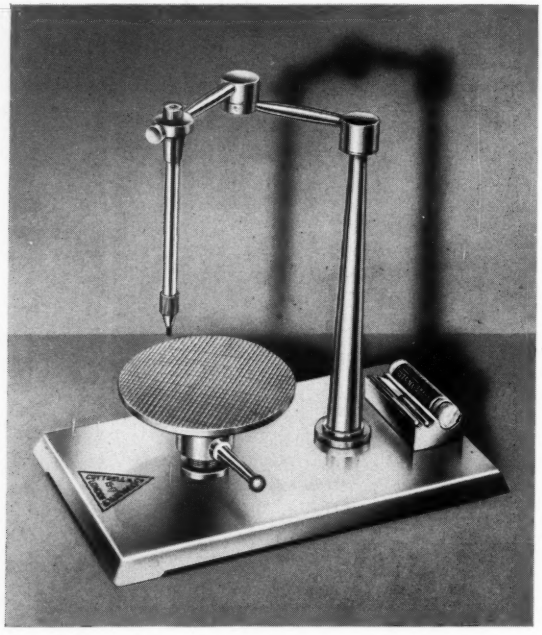

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THE DENTAL PRACTITIONER

A Monthly Journal for the Practitioner and his Staff

(Incorporating the Proceedings of the British Society of Periodontology)

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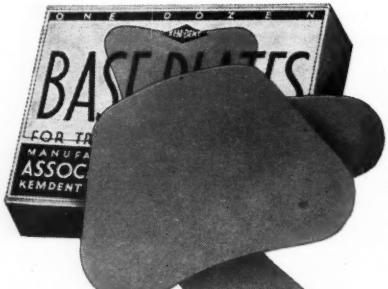

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THE
DENTAL PRACTITIONER

A Monthly Journal for the Practitioner and his Staff

Vol. I, No. 11 July, 1951

EDITORIAL

VERY SORRY

DURING the last few weeks we have had to say just this to some few of our readers, from whom we have received letters intended for publication, having a direct bearing on certain aspects of the National Health Service. We decided not to publish these letters for two especial reasons: first, we are, and wish to remain, entirely non-political; and secondly, we prefer to devote our pages to articles, etc., which aim to keep us up to date with our chosen profession. We hope that this policy is one with which all of you will agree, and to those readers who have sent us letters concerning the Health Service we say once again that we are indeed very sorry to have to return them, but we hope that our point of view will be appreciated. No Editorial Committee ever likes to have to refuse anything, but once we start to publish such letters there is no knowing where it will end. We do keep you all *au fait* with parliamentary news and with regulations, etc., relating to the Health Service, but there we finish. Those who wish to take up the cudgels can well do so at Association branch meetings and through the pages of those Journals more aptly suited to such a purpose. We pronounce our blessing, for such action is always necessary for any service to function well, but please forgive us for not entering the arena.

THANK YOU VERY MUCH

Yes, we have to say this also, and on numerous occasions, too, as readers continue to send us useful material. We are proud to say that with every letter we receive come words of praise, good wishes for the future, and quite often downright flattery. So thank you very much for so much encouragement both by letters and by articles and hints. These last have decreased in number recently, so please get out pen and paper and send us your ideas.

THE PRESENT NUMBER

Once again we have to express sincere gratitude to the staff of one of the Dental Schools for sending us so much first-class material. This time it is to Durham, to the Sutherland Dental School, that our message goes. All will appreciate, and past and present students in particular, their very fine contributions, some further ones of which will appear in our next number, so here is a very sincere " thank you " to the Sutherland.

THE RESTORATION OF TEETH BY CROWNING

By **R. W. LOVEL**, F.D.S. R.C.S. Eng., H.D.D. R.C.S. Edin.

Professor of Operative Dental Surgery, Sutherland Dental School, University of Durham

ONE of the greatest dental tragedies to a young adult is the fracture or premature loss of a maxillary incisor tooth (*Fig.* 1). In reviewing 105 recent cases of crown work, I found that 58 or just over 50 per cent of these had a history of fracture of an incisor. Six cases were of premature loss of central, 12 cases had gross caries, 4 cases had suffered from hypoplasia of the enamel, and 1 case showed malposition and occlusion of the incisors. Five cases had discoloured teeth which had probably been caused by trauma. The remaining 20 cases could not be classified easily except to say that they had all had previously extensive silicate restorations.

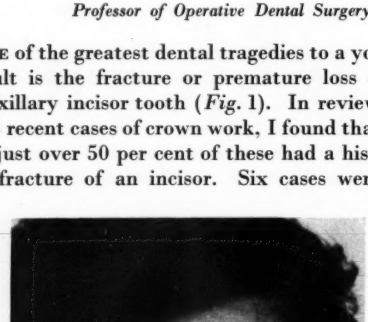


Fig. 1.—Typical fracture of maxillary incisor involving the pulp.

There are many methods of restoring teeth which have been broken down by caries or trauma. When disintegration or disease has progressed to a point when fillings are no longer practical, the teeth must be successfully crowned or extracted. Crowning may therefore be defined as "the artificial restoration of the whole or greater part of that portion of the tooth which normally projects from the gingival tissues".

The operation of crowning is by no means a modern trend in dentistry. Pivoted teeth have been used for many hundreds of years, and the method of their application was described by Fauchard in 1746. He used fine quills inserted into and projecting slightly beyond the root canals, the rim of the quill being smeared with colour so that the artificial crown would be marked at the spot where the hole for the supporting post was to be inserted.

Crown prosthesis, however, remained in a rather crude state as late as 1850. Until then, the most popular method of placing a pivot crown had been to adapt a wooden post to an artificial tooth and to the end of the root canal. The wooden post was then forcibly thrust into position and held in place, until the saliva in the mouth caused the wooden post to swell sufficiently to hold the crown in place in the root.

With the growth of the dental schools, the scientific side of dentistry progressed rapidly. In 1873 Beers introduced the gold-shell crown with swaged cusps filled with solder. In 1878 the Richmond crown was introduced, with a band round the tooth and a diaphragm in addition to the post, to prevent splitting of the root. Five years later, in 1883, A. E. Matheson introduced the open-faced crown, which is a gold-shell crown adapted for anterior teeth, usually as a bridge abutment. A year later, in 1884, the Logan fixed-post crown was invented. This was very similar to a dowel crown, except that the porcelain crown was already fused to the platinum post and, because of that, was somewhat more difficult to fit. In 1885 A. G. Bennet introduced a vertical half-cap crown which was greatly improved by Carmichael in 1906 and which has now evolved

with usage to the present three-quarter crown. A year later, in 1886, Charles H. Land introduced the all-porcelain jacket crown.

The decision whether to crown a tooth or not must be taken only after very careful consideration has been given to a number of varying factors. The most important of these are the health and age of the patient and his attitude to the continued conservation of his teeth; the local condition of the tooth and the surrounding tissues, and the tooth's liability to further dental caries; the health of the pulp and the knowledge that, if this particular tooth was successfully crowned, it would be completely restored to function.

A Simple Classification of Crowns

1. *All-metal Crown with Peripheral Retention.*—

a. Swaged or shell crown.

b. Full-cast crown.

c. Three-quarter crown.

2. *Gold-backed Crown with Post Retention in Pulp Chamber.*—

a. Richmond crown using pin tooth and soldered backing.

b. Richmond crown using replaceable facing and cast-on backing.

3. *Dowel Crown with Post Retention in Pulp Chamber.*—

a. Porcelain, with or without cast diaphragm.

b. Acrylic, with or without cast diaphragm.

4. *Jacket Crown.*—

a. Porcelain on vital tooth.

b. Acrylic on vital tooth.

c. Porcelain or acrylic on gold core.

5. *Natural Crown.*—Replaced after fracture, usually with post retention in pulp chamber.

In recent years there have been great difficulties in obtaining supplies of suitable dowel or replaceable facings, and as a result in England we have been forced to construct jacket crowns in almost every case except when æsthetic considerations were not important in posterior teeth.

The technique of vital jacket crown preparation is not difficult to acquire. Profound anæsthesia is essential and this is best obtained in the maxilla by the infiltration of xylocaine. I always tilt the chair back as far as possible and work with direct vision, using the mouth mirror from time to time to check progress. Diamond instruments are a great help and they should be run under a continuous stream of warm water directed on the tooth by the assistant. This warm-water technique is the only certain way of preventing damage to the pulp tissues.

At least 3 mm. should be taken off the incisal edge with a small wheel stone before making the mesial and distal slices with the $\frac{7}{8}$ in. diamond disk. The aim should be to obtain as large a preparation as possible, clear of the occlusion by at least 1 mm. on the lingual and 2 mm. on the incisal. There should be a $\frac{3}{4}$-mm. shoulder placed in the gingival crevice on the labial and just level with the gingival margin on the lingual. This shoulder should form a continuous and slightly undulating curve around the tooth, of even width, following closely the contour of the gingival attachment, but not the contour of the gingival crest. It has been found that a much better fit of the finished crown is obtained if this contour is kept as flat as possible, as this will help equalize the shrinkage of the acrylic or porcelain during processing. This shoulder can be carried down below the gum margin and finally shaped with end-cutting burrs followed by a 1-mm. binangle chisel, and the whole preparation polished with fine cuttlefish disks before any attempt is made to record the impressions.

The processing of a jacket crown is essentially an indirect technique and accurate models are required of the preparation, the adjoining teeth, and the occlusion. The impression of the preparation is obtained in an annealed and contoured copper ring with low-fusing green composition, to avoid overheating to the pulp tissues and trauma to the periodontal membrane. For a really accurate fit of a finished crown it is essential to record on the impressions not only the shoulder of the preparation but $\frac{1}{4}$ mm. of the root surface below the shoulder. Two such copper-ring impressions are taken. The more accurate one is selected for copper forming and the second impression is replaced on the preparation

before taking a plaster impression, over it, of the adjoining teeth. A wax bite and a lower impression should be taken to record the occlusion, and the patient can be sent away with a temporary preformed acrylic crown set with zinc oxide.

Fig. 2.—Completed gold core on post.

The technique of a non-vital jacket crown is slightly different. The main object here is to obtain a suitable core or foundation on which to build the jacket crown. (*Figs.* 2–7.) Our experience has been that if a normal vital type preparation is attempted on a non-vital tooth, the thin dentine invariably fractures after a short time and the crown has to be replaced with a post.

Fig. 4.—Completed porcelain jacket crown cemented over gold core.

Retention for this core is found not only in the pulp chamber, which is always of rather uncertain size and shape, but also in the root face. The first step is to remove the surplus crown portion. The previous satisfactory root filling is partially reamed out with a Girdwood reamer to a depth equal to the length of the crown, using the radiograph as a guide, and a rectangular cavity is cut in the root face to the depth of 1 mm. to prevent rotation of the crown. (*Figs.* 8, 9.)

Fig. 3.—Gold core cemented in position.

An impression is taken of the root canal by coating a wooden toothpick with a little tracing stick composition and inserting it into the root canal. When cool, the end of the pick is broken off about $\frac{1}{4}$ in. from the root face and the copper-tube impression of composition taken over the wooden pick. When cooled with water, the copper-tube impression is removed, and it will be found that the wooden toothpick and the composition in the tube come out in one piece, giving a very accurate

Fig. 5.—Severe fracture of lingual portion of a maxillary incisor.

impression of the root face, the rectangular retention, and the reamed portion of the root canal. Two such impressions are required. The second impression on the copper ring is left on the preparation while a plaster impression of the adjoining teeth is taken over it.

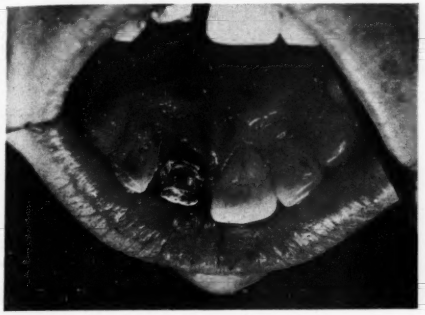


Fig. 6.—Lost tissue on lingual aspect replaced with gold casting and the lingual shoulder developed from the gold core.

This impression should include at least 6–8 teeth for greater accuracy in occluding the working models. An impression of the opposing teeth and a wax bite will also be required, together with an accurate chart of the shade and characteristics of the tooth to be restored.

Better and more pleasing results will be obtained if an artificial tooth of correct shade and size is selected in good daylight and enclosed with the impression instead of just recording the number from a shade guide. In these days of acute shortage of technicians, when much work of this nature is sent by post to commercial laboratories, I believe that plaster impressions are essential, as most other impression materials require casting as soon as they are removed from the mouth if gross distortion is to be avoided.

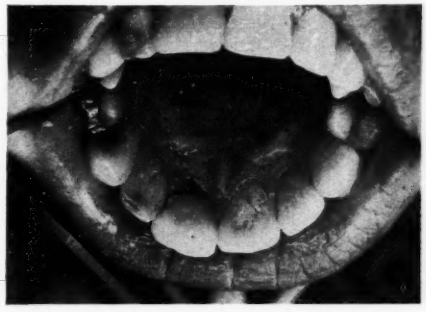


Fig. 7.—Lingual view of porcelain jacket crown cemented over the gold core.

Provided that accurate models have been obtained, there should be little difficulty in fitting the completed crown. A trial is made with the phosphate cement powder and water, inside the crown to determine, especially in the lighter shades, the effect of the colour of the cement. The cement powders are then blended to give the most pleasing result.

Fig. 8.—Enlarged view of fractured incisor, as in *Fig.* 1.

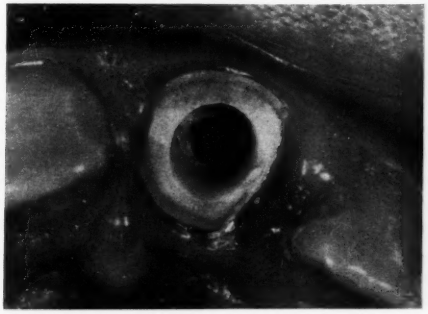


Fig. 9.—Root preparation showing countersunk post retention in the root face.

A thin mix of cement should be used and then the crown carried very slowly into place to allow the excess cement to escape from the inside of the crown. When quite set, the surplus cement is removed with a curved probe

and fine sandpaper strips, and the patient dismissed after checking the occlusion. It is advisable to remove the glaze on the lingual side of the porcelain crown to avoid traumatic occlusion in later years. The unglazed surface

Fig. 10.—Toothbrush abrasion of acrylic jacket crown.

of the porcelain will always wear away the occluding surfaces of the lower teeth faster than a natural tooth and preserve the crown from undue strain.

The patient should be recalled in twenty-four hours to remove any excess cement and polish the gingival margins with fine cuttlefish strips, especially in the interproximal spaces.

I am often asked: What is the life of a crown ? It is not uncommon to see a porcelain dowel crown on a post which has been in a patient's mouth for twenty-five years. The oldest functional crown of this type I have seen was still intact in 1949, forty years after it had been fitted in 1909 by Mr. H. Davis, of Newcastle. Porcelain jacket crowns often remain unfractured for ten to fifteen years, but the expectation of life of an acrylic crown appears to be much less than this. (*Figs.* 10, 11.)

Fig. 11.—Acrylic jacket crown after removal from tooth three years and nine months after it was fitted.

I should like to acknowledge the help I have received from Messrs. J. A. Naidoo and H. A. Seedat in treating these cases, and to Mr. J. B. Jackson and Miss D. Robertson for their excellent intra-oral photography.

BIBLIOGRAPHY

ANTONY, L. P. (1942), *Textbook of Prosthetic Dentistry*, 7th ed., 598. London: Kimpton.

BENNET, N. (1931), *Science and Practice of Dental Surgery*, 2nd ed., 1161. Oxford University Press.

LINDSAY, L. (1933), *Short History of Dentistry*, 78. London: John Bale, Sons and Danielsson.

LUFKIN, A. W. (1948), *History of Dentistry*, 2nd ed., 284. London: Kimpton.

PRINZ, H. (1945), *Dental Chronology*, 123. London: Kimpton.

PREVIEW

No. 12 AUGUST

A Practical Approach to Pulpectomy *Douglas N. Allan, B.D.S. Dunelm, D.D.S. North Western*

Pendulous Tissue in Relation to Full Denture Prosthesis *G. G. Tregarthen, M.D.S. Dunelm, F.D.S. R.C.S.*

The Directive Action of Facial Muscles upon the Passage of a Foreign Body *E. A. Scher, M.B., B.D.S., M.Sc., A.R.P.S.*

Dental Radiography and Darkroom Procedure, No. 2

Parliamentary News Illustrated Hints Society Notes

Abstracts from Other Journals Book Reviews and Notices

SKELETON DENTURE DESIGN CHART NO. 6

FRACTURED INCISORS

By VERA L. CURRY, B.D.S. Dunelm
Lecturer in Operative Dental Surgery, Sutherland Dental School, King's College, in the University of Durham

KRONFELD (1943) describes tooth fracture as a break in the continuity of the dental hard tissues that is caused by a sudden force. A great number of fractured incisors seem to occur between the seventh and tenth years. At this age the maxillary permanent incisors may or may not be fully erupted. The fractures may be caused by direct violence, such as a blow with a hard object like a hockey stick or a fall, or else by indirect violence, as is caused by a blow on the chin when the teeth strike hard against each other. Protruding anterior teeth must be recognized as the most important predisposing factor in injury to these teeth (Ellis, 1945).

When the patient is first seen in the surgery it is essential to take a history which should include details of (Ellis, 1945):—

1. The name and address of the patient.
2. The age.
3. When the accident occurred.
4. How the accident occurred.
5. Whether there had been any previous accident to these or other teeth.
6. The patient's complaints, e.g.,
   a. Soreness to touch;
   b. Pain on biting;
   c. Reaction to thermal changes.

The clinical examination should show:—

1. Type of abnormality, i.e., whether there exists
   a. Fracture of the crown;
   b. Displacement of the tooth;
   c. Loss of tooth;
   d. Laceration of tissues and swelling.
2. Reaction to percussion.
3. Whether there is any mobility.
4. Vitality reactions.
5. What the occlusion is like in centric and functional positions.
6. Radiographic examination of the teeth involved.

The types of fracture commonly seen have been divided by McBride (1945) into seven varieties:—

1. Lateral: This involves, as a rule, an approximate half of the crown and includes the lingual side of one or both pulp horns.
2. Central lobe: Only the central lobe of the incisal edge is involved.
3. Incisal angles: These involve the mesio-incisal angles of the two central incisors.
4. Longitudinal: These fractures terminate in the pulp chamber, or well below the gingival margin.
5. Multiple lateral: This involves a portion of one tooth, more of the second, and respectively more of the third, unless the third tooth happens to be a partially erupted canine. But canines, because of their strength and form, are less likely to be fractured.
6. Incisal third: This involves the mesio-incisal third of the two central incisors and, consequently, the pulps of each.
7. Angle and third: Here only the mesio-incisal angle of one tooth is involved, associated with the mesio-incisal third of the other, the latter with pulpal involvement. This is the type most commonly found.

Occasionally the lower incisors are fractured.

Periodontitis, with pain on percussion, often occurs as a result of injury. Some of the periodontal fibres are torn in association with rupture of some of the capillaries. If the inflammatory reaction is not too severe there is usually repair formation after it has resolved. However, should micro-organisms gain access to the area the inflammatory reaction is usually more marked and then resolution and repair may not take place.

The teeth must be tested for mobility in order to determine whether or not the root has been fractured. It is found that the crown is always looser when the fracture line is nearer the neck of the tooth.

Vitality tests should always be carried out to determine whether the pulp reacts to hot or cold stimuli. When inflammation is present there is increased sensitivity to hot and cold stimuli. A partially degenerated pulp gives a

reduced reaction to hot and cold, whereas a completely degenerated pulp reacts negatively to both types of stimuli. In the latter type there may be some pain on stimulation with

Fig. 1.—A typical example of a fractured incisor.

heat due to gaseous expansion. Death of the pulp in fractured incisors is usually due to rupture of the main apical vessels at the time of the trauma. It should be remembered that in children of 7 to 9 years of age the apical portion is still incomplete and, because of the greater vascularity, there is less likelihood of the pulp dying through strangulation.

Examination of the occlusion serves to bring home some of the difficulties of fractured teeth. McBride (1945) summarizes the position well by stating that "the perplexing difficulty is the matter of growth and development. Many of these newly erupted permanent teeth are crowded, overlapping, and protruding, and restorations can only be made with great difficulty. In a child of 7 to 9 years, the apical third of the central incisor is not formed—the lateral incisor is not completed until one year later than the central—and satisfactory or permanent root canal work cannot be accomplished. If extraction is indicated the problem of using the lateral incisors for bridge abutments is questionable. Also, these accidents frequently occur when the neighbouring teeth have not yet erupted or are only partially erupted, and therefore any restoration one may make will stand out conspicuously".

Radiographs should be taken immediately, the following reasons being given by Ellis (1945) for their necessity:—

1. To determine the proximity and size of the pulp in relation to the lost crown structure.
2. To determine the stage of development of the root apex, if it is not complete.
3. To determine whether a root fracture complicates the case.
4. To provide a record for comparison with future radiographs.

Fractured incisors fall into two groups:—

1. Those not involving the pulp.
2. Those which involve the pulp.

Each group will be discussed separately.

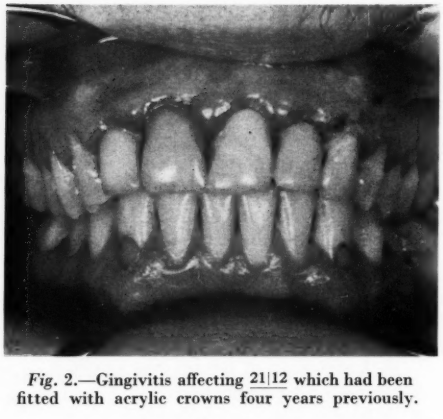


Fig. 2.—Gingivitis affecting $\frac{21|12}{}$ which had been fitted with acrylic crowns four years previously.

Slight fractures of the enamel only need smoothing. Natural wear (attrition) will also help to level the tooth as a child grows older.

Where the fracture does not involve the pulp it is usually found that the tooth tends to be hypersensitive to thermal stimuli for a while until a protective layer of secondary dentine has been formed. Occasionally there

is hyperæmia and death of the pulp, either as a result of the shock induced by the injury, or from thermal changes upon the exposed fibrillæ. At first the patient complains of pain, especially during and after mastication, lasting a considerable length of time. Later the symptoms become more definite as the pulp becomes infected. It should be remembered that abnormal conditions in bone take about fourteen days to become apparent on a radiograph.

Fig. 3.—Fracture of the mesio-incisal angle $\underline{|1}$ associated with fracture of the incisal edge $\underline{1|}$.

Fig. 4.—A gold inlay, having a lingual key, fitted to replace mesio-incisal angle $\underline{|1}$.

Clinical observation shows that the average minimum time for abscess formation to occur after an injury is three to eight weeks.

The immediate treatment is to smear the dentinal surface with a sedative dressing of quick-setting zinc oxide and oil of cloves. A celluloid crown form may then be fitted, having filled it partially with cement after puncturing the incisal angles lingually to allow air and excess cement to escape. If this type of covering is not available one can cement on to the tooth a metal band.

Recall the patient after forty-eight hours and check whether the fractured tooth is comfortable. If there is pain on biting, the tooth may be in traumatic occlusion. Then it is necessary to relieve the occlusion by a small amount of judicious grinding.

The second recall should be after eight weeks. On this occasion take a further radiograph to examine the apical part of the tooth. The temporary covering should be removed and the vitality of the pulp re-tested. If everything is satisfactory a temporary restoration may be made. It is inadvisable to proceed with any permanent restoration until the patient is 16 to 18 years of age, when growth of the arches, eruption of the teeth, and the position of the pulp will have become more or less stabilized.

A young tooth has a large pulp chamber and at this stage extensive operative trauma is likely to endanger its vitality. Dentine is continuously laid down in a healthy tooth, and as a result of this the pulp chamber recedes. That is why the extensive preparation necessary on a vital tooth before crowning takes place should be delayed until the patient is in the late "teens". It does sometimes happen in fitting a temporary restoration, which may take the form of an acrylic veneer crown, that it is necessary to make interstitial slices through the contact points.

In the first year the patient should be seen every three months. Radiographs should be taken of the fractured tooth to show the condition of the root, especially its apical area, and also of those next to it. Vitality tests of the affected tooth and those in close proximity to it should also be carried out each time as it is possible for pulps to die months, or even years, after the accident. After the first year, patients should be seen every six months until the permanent restoration is placed.

For the permanent restoration, a porcelain jacket crown is the ideal method of treatment. Acrylic crowns wear badly and do not look so natural. They are not so well tolerated by the gingival tissues as the porcelain ones and so pocketing is more likely to occur as a result

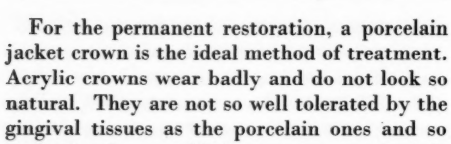


Fig. 5.—Labial view of |1 which has now had a facing fitted. Note that the incisal edge of 1| has been straightened.

of the gingival irritation. If there has been early pulp recession, crowning may be commenced at 16 years of age.

When there is only small loss of tooth substance a gold inlay may be sufficient. The labial margin of the tooth is straightened and a small key is cut into the lingual surface. A lingual step is often advisable to prevent rotation around the key. The labial surface of the inlay may either be plain or have incorporated into it a facing which matches the colour of the tooth.

In fractures of the crown which nearly involve the pulp, root treatment is often necessary. With fractures of the crown involving the pulp, root treatment is always necessary. It often happens that fracture of the tooth occurs before the apical part of the root has been completely formed. In these cases pulpotomy is carried out instead of the preferential treatment of pulpectomy.

Grossman's (1940) description of the root canals of the permanent teeth states that the canals of the maxillary central incisors are generally large and simple in outline, conical in shape, and only occasionally presenting accessory canals or apical branchings. The division between canals and pulp chamber is indistinct.

The canals of the maxillary second incisors are also conical in shape, of finer diameter than the first incisor. Occasionally they present fine constrictions in their course towards the apex, and may infrequently show a pronounced apical curvature corresponding to that of the root. Apical ramifications occur more frequently than in the first incisor.

The root canals of the permanent mandibular incisors have also been described by Grossman (1940). Both the first and second incisors are said to have narrow single canals, flattened in a mesio-distal direction which, unlike those of the upper incisors, may be divided into a labial and a lingual canal through the agency of a dentine partition. In such cases, either separate apical foramina are present, or else the canals may converge towards the apex to form a single apical foramen. With advancing age one canal may become obliterated and the other remain open. The canals are usually wider labio-lingually than mesio-distally, but cone-shaped canals also occur. The canals of the lower incisors show fewer ramifications than those of the upper incisors.

Pulpotomy, i.e., partial removal of the pulp, is done if the apex is open and, preferably, only immediately after the fracture, when it is assumed that there is no infection. Usually local anæsthesia is given, but it may occasionally be necessary to carry out the procedure under a general anæsthetic. The coronal portion of the pulp is removed, observing aseptic precautions. Hydrogen peroxide is used to control the hæmorrhage before covering the pulpal surface with calcium hydroxide. This is then covered with a mixture of zinc oxide and oil of cloves and finally the opening is sealed with phosphate cement. Periodic radiographs should show diminishing size of the canal and, in some cases, the formation of a bridge of secondary dentine over the amputated stump. As a temporary measure to delay extraction a pulpectomy may be done in an open apex case, and then the overfilling can be corrected by an apicectomy.

Pulpectomy, or complete removal of the pulp, is carried out if the apex is closed, and is the operation preferable to pulpotomy in these cases. It may be advisable to follow this with an apicectomy.

After the permanent root filling has been placed a temporary crown may be constructed. In making a crown for a non-vital tooth it is necessary to put a post up the root canal to give it strength as it has been observed that teeth having no circulation lose their elasticity, become brittle and fragile, and then tend to be more subject to further fracture due to traumatic injury than is the case in a normal tooth.

The tooth is cut back to the gingival margin. The root filling is removed for a distance of two-thirds the length of the root canal and the entrance to the canal is made rectangular

Fig. 6.—Fracture of $\underline{|1}$ crown with attachment by the vital pulp.

to the depth of approximately 3 mm., this being to prevent rotation of the post. A cast post and core may be constructed, or, alternatively, a metal post may be used which has the core cast on to it. In the latter case the post must be made of a metal which will not stain the tooth structure and cause coloration of the root.

A crown is then constructed. The temporary crown may be either of porcelain or acrylic. With younger patients gingival recession takes place and at intervals the root structure has to be cut back to the gingival margin and a further crown constructed. At about 18 years of age the eruption will be completed and then the permanent restoration may be made.

When a crown is fractured and does not involve the root below the gingival attachment, it may be possible to use the natural

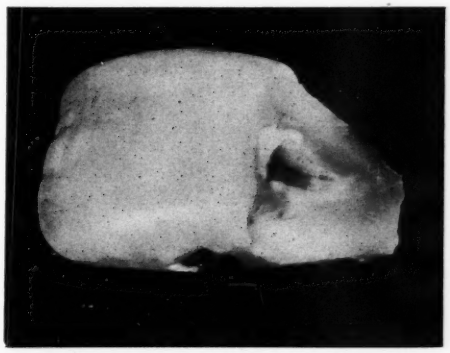


Fig. 7.—A view of the $\underline{|1}$ crown after removal from the mouth. The distal cavity was filled prior to replacement.

crown as the restoration, sometimes as a temporary measure. The treatment is possible only if a root filling can be accomplished. A post is fitted up the root canal after the apical third has been root filled. The pulp chamber of the natural crown is enlarged and then it is cemented on to the end of the post which is projecting from the root canal. The prognosis seems fairly good with these natural crowns.

If this method is impracticable the tooth is prepared as the temporary crown on the non-vital tooth described above; only in this case the core must be extended in the waxing-up stage prior to casting so that it will replace any lost tooth tissue at the gingival margin. The jacket crown will then fit against a shoulder composed partially of tooth substance and partly of metal.

Where fracture of the root is evident, providing the portion containing the crown is held reasonably firm by the supporting structures, it is wise to proceed with caution so far as extraction is concerned. There are a number of records where root fracture was radiographically evident, yet, the structures being

held together by the supporting tissues or fixed by appliances, cementum has served to effect fusion of the two root portions (McBride, 1945).

The probability of reunion taking place in a fractured root is increasingly greater as the line of fracture reaches the apical third of the root. Prognosis is more favourable in younger

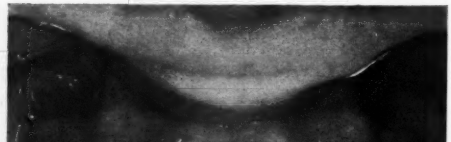


Fig. 8.—After partially root filling $\underline{1}$, the natural crown was re-cemented into position, union being strengthened by having a post up the root canal and through the crown.

subjects. Repair only takes place if the line of fracture is below the gingival attachment. Kronfeld (1943) believes that the sequence of repair is as follows: immediately after trauma the crack between the two parts is filled with blood and tissue fluid. The surrounding periodontal and pulp tissues, fibroblasts, and wandering cells proliferate into the crack; the fibroblasts form connective tissue. Resorption may or may not take place on the fractured ends. If it does take place cementum is deposited later upon an uneven, eroded surface, whilst if resorption does not take place, the cementum is laid down on the original surfaces of the fracture.

Factors necessary for reunion are correct apposition, immobility of the fractured parts, the vitality of the pulp, and a healthy condition of the pericementum. Reunion will fail if the fractured parts are separated by any appreciable space, if they are in constant motion, or if the pulp dies and becomes decomposed.

Fractured roots should be immobilized for six months to two years, the time being determined by radiographic evidence of reunion having occurred. Immobilization may be by means of an acrylic or cast metal splint.

Should a child be unfortunate enough to have to lose a tooth, permanent substitution can only be provided when the child is midway in the "teens". The essential treatment is to maintain the space at its original width as this will allow a restoration to be made which has the correct æsthetic and functional value and which will also prevent the speech from deteriorating.

Occasionally young patients have a closed bite which will prevent the insertion of a partial denture. Then it is advisable to insert an orthodontic appliance which has hooks passing round the teeth on either side to keep them from drifting towards each other.

If a maxillary central incisor has been lost and the space has closed it may be necessary to crown a lateral incisor in an attempt to make it resemble the central. This is not always pleasing æsthetically.

Fractured incisors form one of the more serious types of accidents that can occur to a patient from a dental point of view. Most patients are very conscious of how they look when they smile, and disfigured teeth may have a great psychological effect on them. These unfortunate people require the skilled attention of the dental surgeon to rehabilitate them functionally and æsthetically so that they may lead a normal life.

I should like to acknowledge that the inlay shown in *Figs.* 4 and 5 was the work of Mr. J. M. Patel.

I am also greatly indebted to Mr. J. B. Jackson, F.R.P.S., and Miss D. Robertson for their photography.

REFERENCES

ELLIS, R. G. (1945), *The Classification and Treatment of Injuries to the Teeth of Children*, 14, 19, and 23. Chicago: The Year Book Publishers.

GROSSMAN, L. I. (1940), *Root Canal Therapy*, 28 and 30. London: Henry Kimpton.

KRONFELD, R. (1943), *Histopathology of the Teeth and Their Surrounding Structures*, 2nd ed., 429 and 439. London: Henry Kimpton.

MCBRIDE, W. C. (1945), *Juvenile Dentistry*, 4th ed., 197 and 204. London: Henry Kimpton.

CHRONIC THRUSH

A REPORT OF TWO CASES

By H. E. SIMPSON, B.D.S.

Department of Oral Pathology, University of Durham

WHILE the manifestations of monilial stomatitis are common in infants, they are rare in adults other than those who are suffering from some severe debilitating disease. In the two cases described the disease has taken a chronic course in spite of energetic treatment.

CASE REPORTS

Case 1.—J. Y., a miner, aged 56, reported on June 2, 1949, complaining of a sore mouth of one month's duration. On examination the patient was edentulous and wearing full dentures. There were faint whitish tessellated areas on both cheeks. Along the occlusal line of each cheek was a narrow zone of superficial ulceration which appeared to be healing.

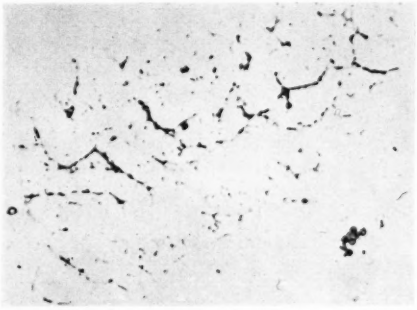


Fig. 1.—*Case* 1. Smear from portion of membrane removed from right cheek, showing monilia and yeasts.

The appearance suggested an acute phase of lichen planus. There was no evidence of skin lichen except one small lesion on the left wrist which might have been a lichen planus papule but was not typical. Vitamin B complex and mist. hydrarg. perchlor. were prescribed and in two weeks the patient was free from symptoms. The ulceration of the left cheek had healed but the condition persisted on the right side.

On July 5, 1949, the patient reported with a white area on his palate. The right cheek was still ulcerated and had once more become

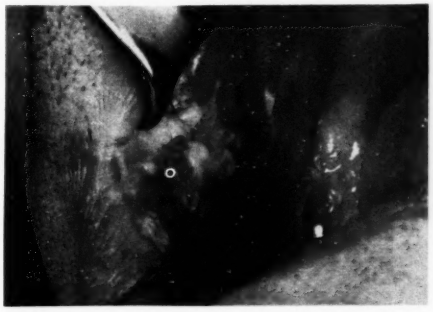


Fig. 2.—*Case* 1. Chronic thrush.

painful. A swab showed the presence of *Monilia albicans* (*Fig.* 1). W.R. was negative. Gentian violet was applied, but after three weeks, although the palatal lesion had disappeared and the buccal ulceration almost healed, a prominent white membrane had appeared along the occlusal line of the right cheek. Continued application of gentian violet caused the discomfort to disappear but the white area extended to involve the labial commissure.

The patient remained symptom-free, but in spite of alkaline mouth-washes, gentian violet, and local ultra-violet therapy, the condition was still present in May, 1950, eleven months after treatment had been commenced. A biopsy showed the presence of keratinization and a mild chronic inflammatory infiltration. The patient was given alkaline tablets to suck, but there was no improvement and the treatment was stopped in order to avoid possible digestive disturbances.

The extent of the buccal lesion had varied considerably from time to time but without apparent relation to any particular treatment.

The labial commissure remained affected and gave rise to intermittent discomfort. In August, 1950, an attempt was made to destroy the lesion by diathermy. This cautery was very thoroughly and carefully applied but little if any improvement ensued and at the present time the right cheek still shows an irregular white band about 0·5 cm. in width extending from the molar region to the labial commissure. (*Fig.* 2.)

Case 2.—E. K., a widow, aged 42, was referred by her dental practitioner on Feb. 8, 1950, complaining of lesions at the corners of her mouth of unknown duration.

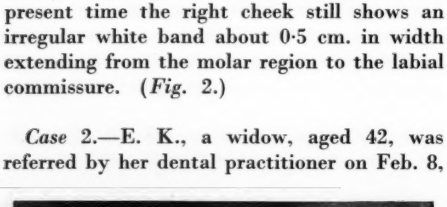


Fig. 3.—*Case* 2. Chronic thrush.

On examination the patient was wearing acrylic full dentures. There were white streaks along the occlusal plane on both cheeks extending from the molar region to the labial commissures and a small area on the left side of the tongue (*Fig.* 3). The condition of the cheeks resembled the non-ulcerative phase of lichen planus, but the angles of the mouth were macerated. A patch test indicated that the patient was sensitive to acrylic resin and she was referred to her practitioner for the construction of vulcanite dentures. A swab of the lip condition showed the presence of *Monilia albicans*, and a biopsy of the cheek showed hyperkeratosis and parakeratosis, with chronic inflammation of the corium. Methyl violet was applied. By March 1, the condition clinically was that of thrush. Methyl violet applications were continued, alternating with boroglyceride. Multivitamin tablets were administered and local ultra-violet therapy applied. In two months the intra-oral lesions were much improved, but the condition of the labial commissures, while varying considerably in extent, showed no inclination to heal. The patient was advised to avoid applying cosmetics to these areas.

At the time of writing, Dec. 15, the patient has just completed a course of general ultra-violet therapy. There is now only a narrow white streak along the occlusal line of the left cheek and the labial commissures are almost healed. (*Fig.* 3.) It is too soon, however, to predict an early cure, as from time to time there have been marked improvements and relapses.

DISCUSSION

The similarity between these two cases is remarkable, especially in respect of the original apparent attack of lichen planus, the later development of the typical thrush appearance, and the siting of the lesions along the occlusal plane. The first patient is apparently in good health and although the second suffers from marked cardiac disability, the general health of the sufferer is not in these two cases an adequate explanation of the onset and chronicity of the disease. It is more likely that the organisms were able to establish themselves on the epithelium following the injury produced by lichen planus. Possibly the localization to the occlusal plane has been the result of trauma during mastication.

BEAUTY

". . . The epithet beautiful is used by surgeons to describe operations which their patients describe as ghastly, by lawyers to describe cases which ruin all parties to them, and by lovers to describe the objects of their infatuation, however unattractive they may appear to the unaffected spectators."—GEORGE BERNARD SHAW.

A NEW METHOD OF DEALING WITH DIFFICULT ANÆSTHETIC CASES IN DENTISTRY

By **WILLIAM H. MYERS**, M.R.C.S., L.R.C.P.

DENTAL anæsthesia is said by some to be the most difficult form of anæsthetic procedure. The administrator is met by more handicaps than his colleague in the operating theatre. Primarily it is an "off the street" administration, and there is little or no chance of being sufficiently acquainted with the patient to obtain an anæsthetic history. There is always the chance of the patient having eaten, or of being an alcoholic, or even of having a fibrillating auricle.

In the case of the alcoholic, for instance, there are occasions when it appears that nitrous oxide and oxygen—even with the addition of minimal trilene, as described in a previous article by the author (1950)—are not suitable or not sufficient to hold the patient down, for a comfortable clearance. There is no doubt that the most difficult patients are men, and of these the tough outdoor worker, or the habitual user of alcohol, is the most difficult. The method of procedure described below has been remarkably successful in a series of such cases numbering about 500, of all ages from children of four years, who were difficult for other reasons enumerated below, to men of seventy years, many of the latter being alcoholics or outdoor workers.

The following are the classes of patient in which I have found the method invaluable:—

1. The child with a streaming cold, blocked nostrils and not a hope of taking a nasal.

2. The unco-operative child who either will not breathe through the nose or who cries and struggles from the start.

3. The alcoholic or "tough" man. One man to whom I was asked to administer recently, for a clearance, worked in a brewery for 40 years, and would have been an impossible "off the street" case. Another tough dock labourer was successfully dealt with the same afternoon using the same method.

4. The patient who commences nasal breathing well and then reverts at the beginning of Stage 2 to mouth-breathing.

5. The patient who has done well through the clearance and gets a little "light" possibly just at the last difficult lower eight extraction.

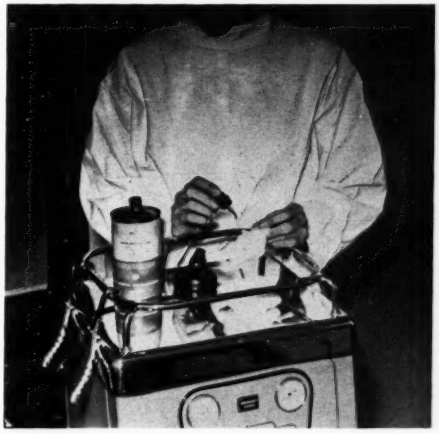


Fig. 1.—Trilene being dropped on to the pad.

Here the method just tides the patient over for that extra few minutes which are so valuable at this time.

APPARATUS USED

Marrett's bottle for Trilene, Connell's harness, Goldman's Inhaler, mouth-packs, and a half-ounce bottle fitted with a rubber capped dropper. Preferably this latter should be sunk into a round slab of dental composition to act as a weight—without this I continually knock the bottle over.

METHOD

Essentially the method is the same as that described by the author in 1950, and modifies the method for classes 3 and 4 above.

Nitrous oxide is first administered until the respirations become more rapid in response to the physiological demand for oxygen. The required oxygen is given—8, 9, possible 10 per cent addition. From the dropper bottle about six drops of trilene are dropped on a fresh mouth-pack and the pack pushed right up to the fauces.

Fig. 2.—Introducing the pad.

Trilene is said to be irritant to mucous membranes and if dropped on the bare surfaces may even be slightly caustic.

In the series described of about 1000 cases, there was never any sign or complaint of irritation or burning of the mouth or lips—the few drops of trilene appear to be completely absorbed into the bulk of the wool pack.

In the case of the patient who has reverted to mouth-breathing, and the one who may be a little "light" at the end, the prepared trilened pack is quickly substituted for the one already in the mouth. Two or three breaths of this "open" trilene are usually sufficient to either start nasal breathing again, or to give sufficient analgesia to complete a difficult clearance. In young children with baby teeth where not even one breath of gas has been taken, the trilened pack held or placed just between the lips gives all that is required, and on many occasions I have seen as many as six teeth extracted without a murmur in the child rendered analgesic with open trilene. It is remarkable that the small dose given is both rapid and very effectual.

SIGNS OF ANALGESIA

There appear to be no signs of the analgesia. The patient is a good rosy colour as he is inhaling air and therefore the equivalent of 20 per cent oxygen. There is sometimes fluttering of the eyelids, a little relaxation, and breathing is quiet and regular.

DURATION AND RECOVERY

As stated, the duration of the open trilene alone is quite short, in children enough to extract from one to six teeth, and recovery is rapid and sudden.

ILL EFFECTS

I have had no ill effects nor any cause to worry in the 500 cases cited. Any post-operative vomiting has always been the result of a sly visit to the tuckshop by a child or even by an adult. There has never been retching on an empty stomach.

SUMMARY

Here I have attempted to describe a simple, easy, and portable way of dealing with some well-known difficult types of dental anæsthesia by using "open" trilene on a mouth-pack. In a moderate series of cases there has been no untoward incident, no cause for worry, and no true post-operative vomiting or delayed recovery.

REFERENCE

MYERS, W. H. (1950), *Brit. Dent. J.*, May 5, 244.

FEDERATION DENTAIRE INTERNATIONALE

The XIth International Dental Congress, London, July 19 to 26, 1952

AN attractive booklet has now been published giving very complete preliminary information concerning the Congress.

DENTAL RADIOGRAPHY AND DARKROOM PROCEDURE

COMMON FAULTS AND HOW TO AVOID THEM

From Ilford Limited Department of Radiography and Medical Photography, Tavistock House North, Tavistock Square, W.C.1.

THIS series of six articles has been prepared to help workers who are new to dental radiography, and for those others who find that there are many pitfalls for the unwary, particularly in the darkroom. It is hoped that by these suggestions and warnings, the production of unsatisfactory dental radiographs may be reduced to a minimum and progress made in this very important aid to the dental surgeon.

Fig. 1.—Lower jaw. Film too high, so that the image of the apices has been excluded.

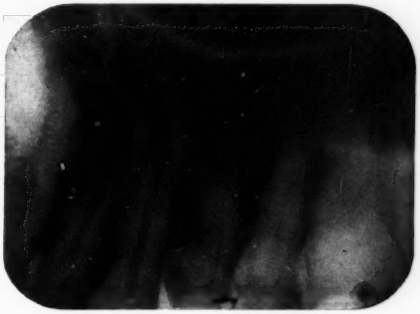


Fig. 2.—Upper jaw. Film too high, so that the image of the crowns has been excluded.

1. PLACING THE FILMS IN THE MOUTH

In dental radiography the skilful placing of the film in the mouth is of the utmost importance in order to retain the patient's confidence. A clumsy start will cause agitation and defensive obstruction on the part of the patient, with accompanying tightening of the facial muscles, but if the first dental film slips easily into place the muscles are relaxed and the patient remains calm, a condition so essential for correct manipulation of the films.

The dental film should be introduced into the mouth in the horizontal position, and when beyond the dental arch it should be turned up to the palate or down beside the tongue, according to the jaw under examination. In every instance but one the film should also be introduced with the tube-facing side uppermost, the exception being for the lower incisors, when the film position should be reversed. For each group of teeth the edge of the film should be placed parallel to the occlusal border of the crowns. Should bungling occur it is best to remove the film from the mouth altogether and give the patient a brief rest before trying again.

Accidents in placing the film may happen as shown in the illustrations (*Figs.* 1–4).

The faults 1, 2, and 3 shown in *Figs.* 1–3 can most easily happen when film holders are not employed, and are due largely to the film slipping when the patient takes over from the operator in supporting the film in position. It is best for the operator to use both hands in

placing the film, the thumb and finger of one hand holding the film corner and the index finger of the other hand supporting the back or, for the lower jaw, pressing the top edge of the film while the patient is taking over.

For any member of the surgery staff to hold the films during the exposure to X rays is a most dangerous practice and should be avoided at all costs, or injury through over-exposure to radiation will be the result.

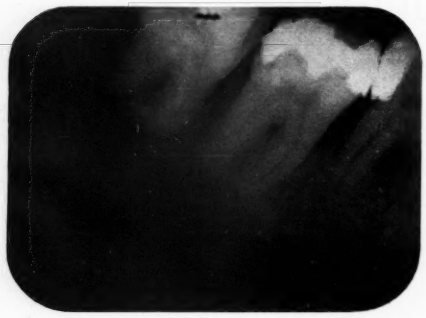


Fig. 3.—Side-to-side slipping of the film. The edge of the film is not parallel with the borders of the crowns.

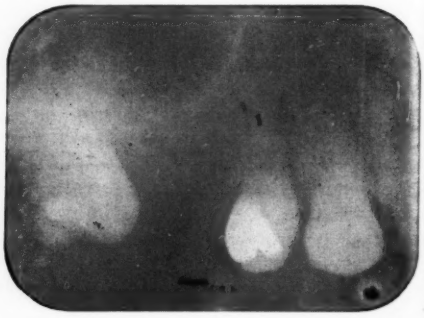


Fig. 4.—Film pack reversed and exposed through the lead foil, which has absorbed the majority of the X rays, resulting in gross under-exposure of the film.

A METHOD OF SPRUEING CAST UPPER PALATES OF LARGE AREA*

By C. J. D. YATES

HAVING experienced much trouble and moments of suicidal tendencies in attempting to cast upper metal palates of large area, I submit the following method which has proved successful with a centrifugal casting machine.

My thanks are due to Dr. C. J. Ringle, of the Williams Gold Refining Co., of New York, for the original information.

The cause of failure appeared to be in not getting the hot gases away from the centre of the mould quickly enough to allow the casting material to fill up before solidifying. This left voids or, at best, mild porosity in this area.

To enable the gases to escape quickly, "risers" are attached to the periphery of the wax pattern as shown in *Fig.* 1. These "risers" are made from linen thread of 0·018 in. diameter. They are cut from one long piece, which is first soaked in molten wax and then held taut until the wax hardens. This gives stiffness, making for easier manipulation at this stage and ease of removal from the investment later. Almost any material of similar diameter should prove successful. The thread is then cut to lengths sufficient to protrude above the investment when the wax pattern is in position in the casting cylinder. Investing is carried out in such a way that the "risers" are kept in or about their original positions. When the investment has hardened, the protruding ends of the waxed "risers" are gripped with pliers and pulled steadily from the investment. The casting is now proceeded with in the usual way.

On removal from the investment, the case will appear as in *Fig.* 2, with the "risers" now

* Contributed by the Dental Laboratories Section of the Surgical Instrument Manufacturers' Association.

duplicated in the casting material. It will be seen that they extend from the periphery of the casting almost to the full height of the button, but owing to the action of centrifugal force they will not rise above the height of the button. No molten metal will be expelled from the mould to be sprayed over the operator or the laboratory walls.

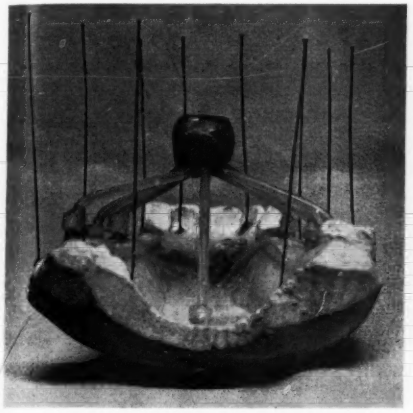


Fig. 1.—Showing "risers" waxed in position, and their suggested height.

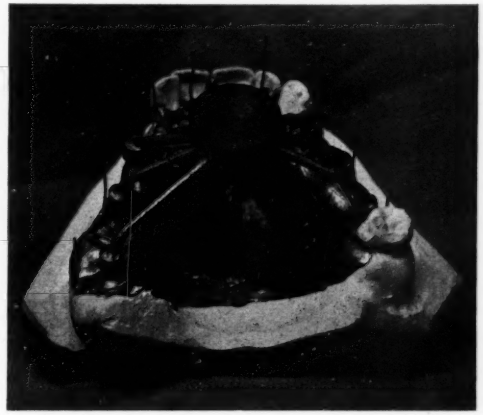


Fig. 2.—Casting removed from investment showing "risers" duplicated in casting material.

NEW MATERIALS

"SPONGOSTAN" STERILE GELATIN SPONGE

GENERALLY; the use of absorbable substances to obliterate bone cavities or dead spaces is inadvisable because of the interference with the normal processes of repair and healing of surgical wounds. The use of sterile absorbable gelatin sponge with or without the addition of thrombin is, however, a most effective hæmostatic agent in the presence of troublesome hæmorrhage, notwithstanding the fact that final healing of the wound may be delayed.

"Spongostan", a sterile gelatin sponge, manufactured by Herts Pharmaceuticals Ltd., has been used in 57 cases with advantage in the prevention of post extraction hæmorrhage. In cases of hæmorrhagic diathesis the sponge is impregnated with thrombin.

The sponge, which is non-antigenic and non-irritant, is placed in sterile normal saline solution, squeezed free of air, and then firmly plugged into the socket, where it remains. The socket may be insufflated with antibiotics, which are not inactivated by the sponge. Healing is complete in from three to five weeks and in no case was infection or other side-effects produced.

"Spongostan" was also used in 25 cases following extraction, where, due to a relative avascularity of the tissues, the sockets failed to fill with blood. Sulphanilamide or penicillin powder was insufflated into the socket and the gelatin sponge pressed into position. In no case did infection of the socket develop.

In the presence of sepsis the use of "Spongostan" is contra-indicated as the gelatin becomes liquefied in a few days.

D.M.M.

CRITICS' CORNER

(Under this heading we print letters which discuss points arising from articles which have appeared in the DENTAL PRACTITIONER, *together with the comments of the authors. We trust that this section will prove of interest to all our readers and stimulate further discussion.)*

Some Psychiatric Aspects of Dentistry

To the Editor.

Dear Sir,

One must challenge Dr. Stern's comments on thumb-sucking in the article published in your issue of April 1951, pp. 245 et seq. He states that the evils of this habit have been exaggerated. If he means the evil done to the mind, I do not know; that is his concern. If he means the evil done in the mouth, I know of no one cause more productive of serious malocclusion if the habit persists beyond early infancy. The photographs accompanying this letter of two cases, one mild (*Fig.* 1) and the other severe (*Figs.* 2–4), are taken from many examples that have passed through our clinics in the West Riding and are typical of the conditions caused by thumb- or finger-sucking.

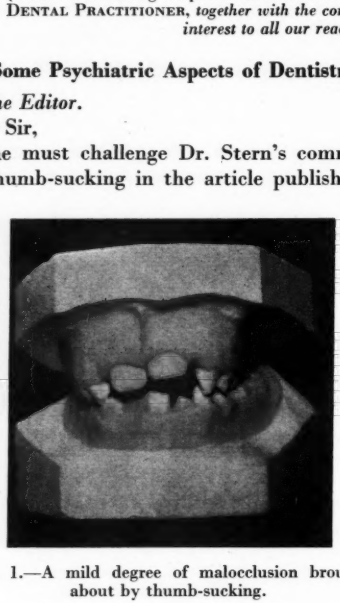


Fig. 1.—A mild degree of malocclusion brought about by thumb-sucking.

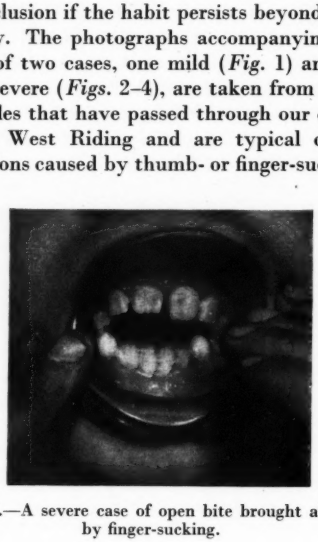


Fig. 2.—A severe case of open bite brought about by finger-sucking.

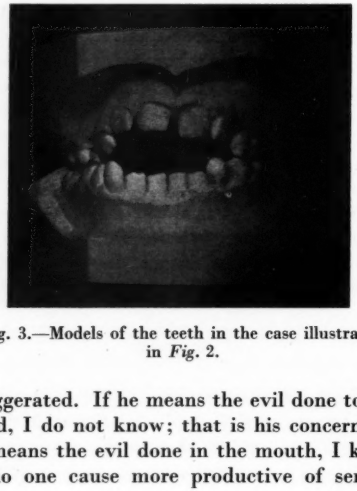


Fig. 3.—Models of the teeth in the case illustrated in *Fig.* 2.

In the second case it will be seen that not only the mouth but the fingers have been distorted (*Fig.* 4).

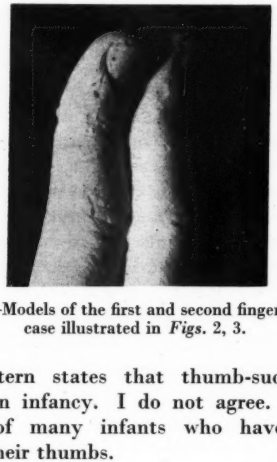


Fig. 4.—Models of the first and second fingers in the case illustrated in *Figs.* 2, 3.

Dr. Stern states that thumb-sucking is normal in infancy. I do not agree. I have known of many infants who have never sucked their thumbs.

To my mind, trimmed of all its psychological embellishments, thumb-sucking is in most cases a persistence of an infantile behaviour pattern and not a pernicious habit or tic. It is an arrest in normal maturation and not an acquired performance which is taken up by the child to replace something which is missing in its emotional life. In a very few cases it may be associated with some psychological conflict, but in the great majority if some simple deterrent plate is worn the habit is very quickly discarded and to the best of my untrained psychological awareness with no harmful effects upon the child. In fact in an appreciable number of children there seems to have been a stepping up in the process of general maturation after the habit has been given up, including the cessation of enuresis in several cases, but this may, of course, be purely coincidental.

We have several cases on our records in which children have been treated unsuccessfully by psychiatrists for various behaviour disturbances which have disappeared almost miraculously when the habit of thumb-sucking has been stopped.

In my opinion thumb-sucking is a syndrome rather than a symptom and in the great majority of cases should be treated directly with great benefit and no harm to the patient.

Yours faithfully,

B. R. TOWNEND,
F.D.S. R.C.S. Eng. L.D.S. L'pool.
Chief Dental Officer, West Riding County Council.

[Mr. Townend has raised an interesting controversial point. It must be observed that many cases of malocclusion are known with a history of thumb-sucking and vice versa, and in his excellent photographs there is no proof of cause and effect. Permanent deformity of the fingers from sucking must be unknown. If the child must suck when not feeding, surely there is no more suitable object than one of his digits, which has the great advantage that it is non-toxic, and it cannot be swallowed to cause intestinal obstruction or inhaled to cause asphyxia. —E. S. S.]

PARLIAMENTARY NEWS

Questions and Answers

TYCONIUM AND SIMILAR DENTURES

Mr. Peter Smithers (C., Winchester) asked the Minister of Health what progress had been made in the investigations into the use of tyconium and similar cast alloys for the manufacture of dentures for the National Health Service; and whether this type of material was now available for use by dentists in Britain.

Mr. Marquand, in a written reply, said: Two alloys of this type are under test. A third is expected for testing shortly. (*F., June* 8.)

MONOPOLIES AND RESTRICTIVE PRACTICES

Urging in the House of Commons on Friday a speeding up of the work of the Monopolies Commission, and Government consideration of early legislation against monopoly practices, Mr. C. A. R. Crosland (Lab., S. Gloucestershire) said he hoped the Government would be quite firm about their powers under the Monopolies and Restrictive Practices Act to introduce *ad hoc* Orders against monopolies.

It was a little disturbing to find some people suggesting that it was unfair to forbid monopoly practices—for example, in regard to dental goods—merely on the ground that they were known to exist in other industries too. It was unfair to suggest that they should not do anything about the boycott in dental goods till legislation could be introduced for all industries.

Mr. W. T. Williams (Lab., Hammersmith, S.) urged that publicity should be given to the hearings of the Commission. He said that the dental goods manufacturers were now claiming that the action taken against them was unfair because there was no publicity or opportunity of knowing upon what evidence the Commission had reached its conclusions.

Mr. Harold Watkinson (C., Woking), said that in his view the dental goods industry "got exactly what it deserved in the findings of the Commission".

He said: "I think the Commission was entirely fair and frank with them, and that

they had every chance of defending themselves. I would not agree with them that they were unfairly treated in any way, and I would like to see the same treatment meted out to certain other industries".

The President of the Board of Trade (Sir Hartley Shawcross) recalled that a Committee presided over by Mr. Justice Lloyd Jacobs had recommended that the practice of resale price maintenance should be made illegal. "The Government propose to give effect to that recommendation", he said, amid murmurs of approval from Members on both sides.

Announcing that the Government would prohibit both individual as well as collective resale price maintenance, he said it was hoped to publish a White Paper on it next Tuesday (June 19).

Earlier, he said that sections of industry found it difficult, because of less progressive elements, to throw off the shackles of outmoded techniques—although in respect of the dental goods industry, one of the leading firms, as soon as the Monopolies Commission published its report, voluntarily abandoned certain practices the Commission condemned.

Sir Hartley commended Mr. Crosland's motion as one reflecting the Government's policy.

Mr. Crosland's motion, with some slight amendments proposed by the Opposition, was agreed to. (*F.*, *June* 15.)

Mr. H. Marquand (Minister of Health) moved in the Commons on Wednesday night "That the Draft Monopolies and Restrictive Practices (Dental Goods) Order, 1951, a copy of which was laid before this House on June 5, be approved".

He said that in the dental goods industry there were little more than 6000 employed but its products were valued at about £6 million every year.

This included not only artificial teeth but precious metals, dental equipment, and so on.

The advent of the National Health Service had greatly affected the industry. The Health Service began in July, 1948, and the report of the investigating Commission stated that retail sales of dental goods were 60 per cent higher by value in 1949 than in 1948.

The Commission's report described a small but thoroughly typical piece of capitalism.

The Commission stated they had been impressed by the high sense of responsibility that prevails throughout the industry, he continued. Yet they found that prices of some of the industry's products are too high, there is restriction of entry into industry, and certain objectionable practices contrary to public interest are practised.

The situation is not due to the villainy of any individual but due to the natural law of capitalist industry moving towards monopoly.

The Dental Manufacturing Company and amalgamated group of companies supply 68 per cent of the dental goods bought in the United Kingdom, he said.

Mr. Marquand said members of the Association of Dental Manufacturers and Traders supplied 89 per cent of dentists' requirements in certain goods. The Association had so tight a control over the industry that even the I.C.I., when it developed a new material to be used in the industry, felt obliged to join the A.D.M.T. and submit to its rulings in order to get satisfactory distribution of its dental products.

The Commission, the Minister went on, recommended that the Amalgamated Dental Group should itself reduce the prices of porcelain teeth and should reconsider its arrangements for the distribution of dental burrs, in the light of the report.

It was recommended that the A.D.M.T. should itself review its rules, regulations, and policy.

Mr. Marquand said: I am glad to say the retail prices of certain teeth were voluntarily reduced from April 2 by from 5 to 20 per cent. The restrictive part of the agreement concerning burrs has been voluntarily waived by the Amalgamated Dental Co.

Other firms within the industry had indicated they would consider the recommendations and criticisms regarding prices of certain teeth and dental equipment.

We hope the industry will fully realize its responsibilities in these respects. The Association has set up a committee to review its rules and policy.

The Government stands ready to help the Association in doing that. We trust this review that the Commission recommended should be left to the Association itself. We trust that after it has been completed—if necessary with Government help—it will not be necessary to introduce further legislation to correct abuse.

The Commission, he said, had declared: We recommend these practices of exclusive dealing and collective boycotting should be prohibited.

Mr. Marquand said: This Order is the instrument of that prohibition.

Article 1 provided the Order should come into operation 28 days after it had been made.

Article 3 rendered unlawful all agreements providing for the withholding of dental goods, or orders for them, from persons; or their provision to certain people at less favourable terms and conditions than to others, where the intended or likely effect was to limit the number of persons acting in the United Kingdom as suppliers of dental goods. This article, said Mr. Marquand, prevented the exclusive dealing which the Commission found so objectionable, and found to be one of the main features in the operations of the A.D.M.T.

Article 4 made it unlawful to boycott suppliers of dental goods because they had sold those goods at less than fixed prices.

The Minister said: The effect of these two articles is to make the device of exclusive dealing and collective boycott unlawful only in this context which the Commission have strongly criticized . . . where they are used to enforce retail price maintenance and to restrict entry into the trade. This Order seeks to carry out the recommendations of the Commission and does not go beyond these recommendations.

We feel that if we were to go beyond that, it would be more appropriate to do so by general legislation to apply to other and all industry. Since that decision was made, we have laid before the House a White Paper which does announce the Government's intention to do for the whole of industry what this order does for the dental industry.

No criminal proceedings could be taken for contravention of this Order. The remedy for breaches was in the civil courts.

We must free the consumer and the shopkeeper from price rings and boycotts. This Order is the first step along a road which we intend to follow to the end, he concluded.

Mr. W. E. Padley (Lab., Ogmore): I support this Order as a Socialist who is in favour of public action to prevent the exploitation of the public by monopolies. I am prepared to support the Government in any action similar to this Order which will bring prices down at the expense of the monopolies. It was doubtful whether this Order went far enough in tackling the problems of capitalist monopoly. It might be the Government in the not distant future would find it wise to bring to this House additional proposals, perhaps a measure of public control over prices charged. It would be an improvement if the individual firms were compelled to register the goods and the price with the Board of Trade.

He was not sure whether a more forthright Socialist remedy would not be for the Government to acquire 51 per cent of the holdings in some of the firms in this industry.

Mr. H. N. Linstead (C., Putney): So far as the dental industry is concerned they have encrusted around themselves practices which make it essential for the Government and for the House to give some attention to it.

But they were taking the industry and subjecting it to a good deal of rough handling.

For that reason, he said, the House should look very carefully at what it was doing.

Here was an industry which for years past had been doing what was needed. It had done its best, and in a short time put its house in order. It was an industry against which governmental action was being proposed in isolation, without having regard to the contents of the recently-published White Paper on resale price maintenance, without regard to the position of other industries where the same practices might be in force, and without regard to the recommendations of the Lloyd Jacob Committee.

I cannot help getting the impression that the Government were looking for an industry of which they could make an example, and here they have found an example ready-made for them, he said.

If it were expedient that an industry should suffer it was not a principle when you took one industry in isolation.

He said, referring to the statement which Members had received from the Association, that though he did not agree with its views the three objections which the Association raised to the proposed Order should be mentioned.

The Association said firstly that the Order was unnecessary because they were able to do what the Order proposed to do.

They said the Order was oppressive because they were being selected out of many industries in which there might be similar practices.

I cannot help feeling that if these practices are to be declared illegal in the dental industry they should be illegal in other industries where they are being practised, he commented.

Lastly the Association said the Order, although it had to be withdrawn to be examined by the lawyers, was still obscure.

He said we were committed in this country for a long time to a tripartite set-up in industry: to nationalized industries, private industries, and the great industrial departments of State. Those three parts had to be put in harmonious relationship, and that was not likely to be achieved by such statutory Orders.

Mr. H. Brooke (C., Hampstead) said this was a unique occasion. This was the first time the machinery incorporated in the Monopolies Act was being operated.

Mr. Lionel Heald (C., Chertsey) said we should do our best to carry into effect the recommendations of the Commission.

We were making something unlawful which was lawful to-day.

He observed that the President of the Board of Trade was tactfully absent.

Mr. Heald said: We are altering the law with this piece of paper, so insignificant that now I have lost it altogether. (*Laughter.*)

Mr. John Wheatley (Lord Advocate), who said he was speaking because this Order applied to Scotland as well as England, said: This is really an historical occasion because, I think for the first time in our history, Parliament is waging legislative war on the monopolists of this country.

What was contained in this order was a reflection of the recommendations in the Commission's report. In deciding whether or not we should accept this draft Order, the first thing we have to decide is whether we are justified in bringing in this Order in view of the Commission's report.

Mr. Wheatley said that in due course the Government would catch up with the other industries where this kind of monopoly existed.

They were dealing with the first of what might be a series of Orders in the war against monopolies, price rings and restrictionist practitioners.

The Order was approved. (*W., June* 20.)

NATIONAL HEALTH SERVICE NOTES

Aureomycin and Chloramphenicol Regulations

Regulations have been made by the Minister of Health, after consultation with the Medical Research Council, bringing aureomycin and chloramphenicol within the scope of the Penicillin Act, 1947, which controls the sale and supply of the substances to which it applies. Details are given in S.I. No. 919.

Charges for Dentures

Regarding the charges payable for dentures by patients, the Minister has been considering what arrangements should be made in cases where a patient was accepted prior to May 21, 1951, for treatment which included the provision of dentures which he alleges are unsatisfactory and makes an application for fresh dentures on or after that date. Details are given in E.C.L. 55/51.

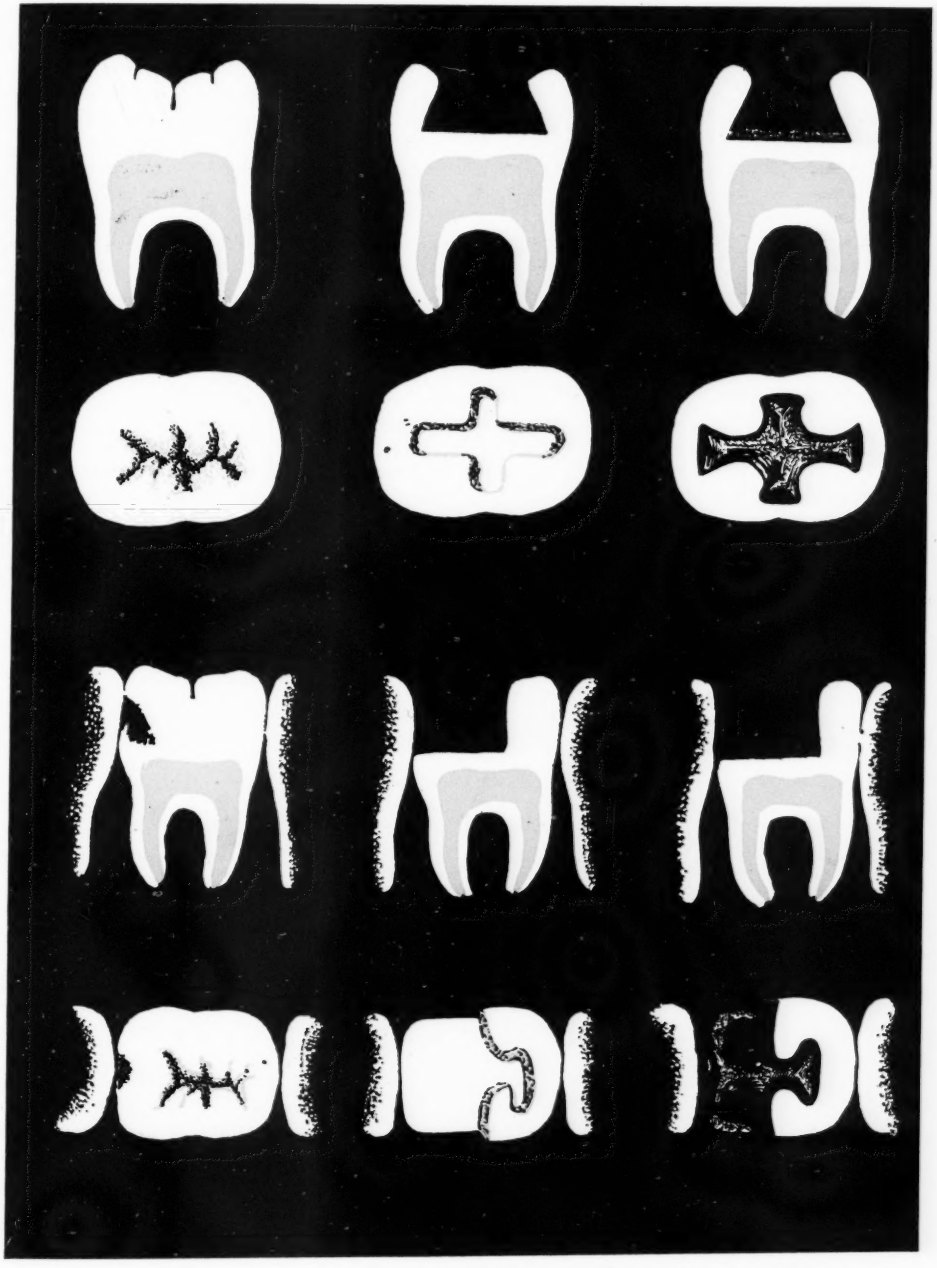
Removal of Name

The name of Percy Wood, 34, Judges Drive, Newsham Park, Liverpool 6, has been ordered to be removed from the Dental List of the Executive Council for the City of Liverpool, and shall not be included in any corresponding list kept by any other Executive Council under Part IV of the National Health Service Act, 1946.

Issued with "The Dental Practitioner," July, 1951, Vol. I, No, 11

COLOURED CHART No. 6. (FOR YOUR PATIENT'S INSTRUCTION)

THE PRESERVATION OF DECAYED TEETH



In preserving a decayed tooth all caries must be removed and the cavity extended to include sound structure of the tooth. These illustrations show diagramatically how the cavities are extended to exclude all decay and finally, with suitable retention and lining, the anatomical restorations are provided to restore the full function of the tooth.

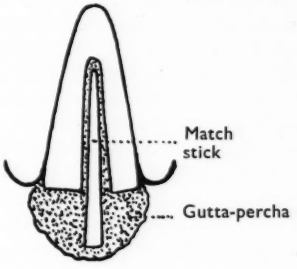
ILLUSTRATED HINTS

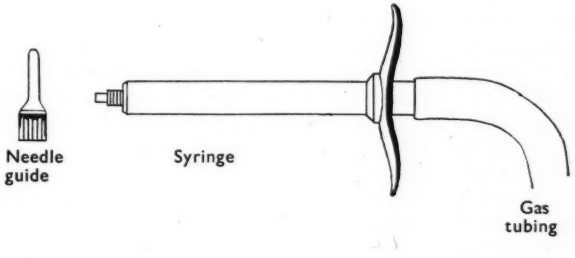
A TEMPORARY DRESSING FOR A DAVIS CROWN PREPARATION

After preparing a root for a Davis type crown, it is sometimes advisable and necessary to dismiss the patient for a day or so with a gutta-percha dressing to force away overhanging or bleeding gum tissue so that a dry field may be obtained when the crown is cemented on.

This can easily be done by sharpening a piece of match stick so that it will fit the hole in the root which has been prepared for the post, leaving 2 or 3 mm. projecting. The match stick is smeared with hot gutta-percha, pressed into the previously dried root canal and another piece of hot gutta-percha moulded on to the projecting portion and pressed well down while in a semi-soft state.

B. R. Townend.





A WAX SMOOTHING TORCH

An excellent wax smoothing torch can readily be made from an old hypodermic syringe. Remove the plunger and fit a length of gas tubing on this end.

If a small flame is required, the application of a needle guide to the end of the syringe will give a small but hot flame.

WAX RECLAIMING

If scrap wax is collected, it can easily be rendered clean and made into sheets by the following method.

The scrap is put into a deep pan with a quantity of water and the mixture boiled. After a few minutes the heat is removed.

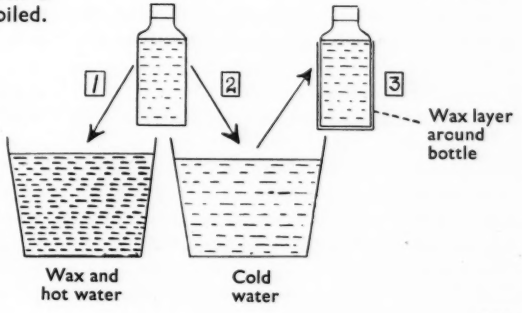
A bowl of clean cold water should then be placed next to the molten wax.

An empty 40-oz. bottle should be filled with cold water.

The bottle is first dipped into the molten wax and then into the cold water. A thin film of wax is deposited each time, and this continues until a sheet of suitable thickness is obtained.

This sheet can easily be removed from the bottle by cutting vertically across it whilst it is still warm. If this is done, the sheet can be readily flattened without breakage.

S. W. J.



ABSTRACTS
from Other Journals

Malignant Tumours of the Upper Jaw

In a review of malignant tumours of the upper jaw, the author has brought out salient features which are worth studying. To classify the position of the tumour an imaginary line is drawn between the inner canthus of the eye and the angle of the mandible, thus dividing the growths into antero-inferior and postero-superior groups. These are again divided into medial and lateral subdivisions. The degree of malignancy is lowest in the antero-inferior medial group and highest in the postero-superior group. The age incidence is greatest over the age of 50. There is a slightly higher percentage of males affected by malignant disease of the upper jaw. No definite cause can be attributed for the occurrence of these tumours; factors such as previous infection and trauma have been mentioned. As regards pathology, a high proportion of keratinizing squamous carcinoma has been noted. A brief description of the antrum of Highmore then follows before the signs and symptoms are discussed under various headings.

1. Swelling of the face: the first symptom to appear which rapidly progresses.

2. Ulceration: present in the alveolus or palate extending into the antrum, or may have started in the antrum and spread into the alveolus.

3. Nasal polypi: when present are soft, friable, and bleed easily and are due to the actual invasion of the ethmoid region by the growth.

4. Dental lesion: pain in the alveolar margin and persistent loosening of some of the teeth. Complaint of an ill-fitting denture or a sore place under the denture may be present. The tooth socket after extraction may never heal or persistent neuralgia may remain after extraction of roots.

5. Oro-antral fistula may be present.

6. Pain: is a prominent feature in the majority of cases. May be neuralgic or boring in nature.

7. Epistaxis may occur.

8. Slight anæsthesia of the skin and mucous membrane.

9. Eye signs, such as epiphora and proptosis, may be present.

10. Glands may be enlarged.

Diagnosis.—In the advanced cases nasal obstruction, expended antrum with bulging and ulceration into the hard palate, extending into the orbit giving rise to proptosis. In early cases, history of a denture beginning to misfit with or without antral suppuration, nasal polypi, pain or unilateral epistaxis, or offensive nasal discharge should be viewed with suspicion in any patient of cancer age.

Radiography: Diffuse opacity of the maxillary antrum, without a fluid level.

Biopsy: should be done with a diathermy cutting knife.

Differential diagnosis.—

1. Inflammatory conditions, such as chronic inflammatory lesions of the antrum; these do not cause persistent pain or swelling. Osteomyelitis of the upper jaw.

2. Dental or dentigerous cysts: rarely causes ulceration or invades the antrum. Progress is slow, little pain, and the radiograph confirms the diagnosis.

3. Simple tumours: (*a*) Epulis of the alveolar margin; (*b*) Fibroma of palate; (*c*) Osteoclastoma of the epulis type.—SEED, G. S. (1951), *J. Fac. Radiol.*, **2**, 263.

Æsthetic Dentures and their Phonetic Values

The author discusses the neglected subject of phonetics in relation to denture design. He is of the opinion that phonetics are controlled 100 per cent by the æsthetics, in which he includes not only the position of the teeth but also the exact simulation of all the investing tissues.

He suggests that the best method of securing the best phonetic results is the closest possible reproduction of the pre-existing natural condition and urges close study of models of natural dentitions, particularly with regard to soft tissues.

Design of dentures is discussed under four headings: (1) Correct occlusal plane; (2) Correct clearance between incisors; (3) Correct tongue room; (4) Setting the upper teeth off the ridge.

Under (1) he gives a method of checking the plane by having the patient grip a spatula between the bite blocks and adjusting them so that it is parallel to the floor when the patient is standing normally. In (2) he advocates a clearance of 1–2 mm. when the patient is sounding "S's" while counting from 1 to 10. (3) Correct tongue room should be governed by the lower. Photographs show the relationship of lower lingual cusps to a line from canine to retromolar pad. In (4) he claims that instability as a result of setting uppers outside the ridge can be compensated for by balanced setting.

Under "Fashioning the Denture Base" very full details of reproducing palatal and lingual contour are given and the present inadequacy of correct colour blending is stressed.

Details of a method of powder packing of pigments to produce a natural appearance are given, and photographs of machine-made labial veneers in flexible acrylic are shown. The article is well and convincingly illustrated throughout.—POUND, E. (1951), *J. Prosthetic Dentistry*, **1**, **2**, 98.

Resistance of Self-curing Acrylic Resin to the Passage of Dye between Filling and Cavity Wall

Silicate cement fillings have well-known disadvantages, the main ones being the discoloration of the material and its contraction. With the advent of the self-polymerizing acrylics it is hoped to be able to use a material that does not have the disadvantages of silicate cements. The purpose of this study was to consider the question of controlling the shrinkage of the plastic so that the junction of the cavity wall and filling was impermeable to saliva, and to evaluate the resistance seal of the material to fluids. Tests were made on extracted teeth filled with silicate cement and acrylic, and suspended in methylene blue under controlled conditions for periods of from one to five days. All the teeth were sectioned at varying periods of time and photomicrographs recorded. Another series of tests was instituted by packing the materials into small controlled tubes and immersed in methylene blue.

The results showed that in all cases there was much more penetration of the dye through the silicate cement than through the acrylic filling. In the tooth sections no dye appeared to have penetrated between the cavity wall and the filling. Filling material, enamel, and dentinal tubules contained no sign of dye when the tooth had been filled with acrylic. When silicates were used the dye freely penetrated through the filling to the tooth substance.

It is pointed out by the author that these results are only obtained if a very careful technique is used in manipulating the acrylic self-polymerizing resin. Acrylic may be used only in selected cases, but if performed correctly will give a filling that has a tight seal between the cavity wall and the material and a filling that is impervious to saliva.—BUCHANAN, G. A. (1951), *J. Canad. dent. Ass.*, **17**, 131.

The Deterioration of Human Teeth

The results of the findings by the School of Dentistry of the University of Minnesota in three successive studies over twenty years give rise to some pertinent questions. In 1929, 3388 students averaged 9·95 teeth affected by caries. In 1939, ten years later, 4348 students had 11·8 teeth so affected. In 1949 the 4412 students in the university had 13·7 teeth affected by caries. Despite all modern progress in dentistry and social health, there appears to be a deterioration in the teeth. An interesting factor shows that the height and weight of the students increased over the years at the same time as their teeth decayed more.

Professor Brekhus asks if there is a force at work, an evolutionary or degenerative force, that is slowly but surely eliminating certain teeth from the human dentition. The teeth found to be most frequently missing are the third molars, the upper laterals, and the second bicuspids. The tendency towards the deterioration and reduction of the teeth is not necessarily irreversible, and the report is not presented in the spirit of pessimism.—BREKHUS, P. J. (1951), *J. Amer. dent. Ass.*, **42**, 424.

BOOK REVIEW

PROSTHETIC DENTISTRY. By F. Winston Craddock, B.A., Dip. Ed., Cert. Dent., M.S.D. (Northwestern). Second edition. Pp. 359, with 179 illustrations. 1951. London: Henry Kimpton. 28s.

This book can be recommended. Professor Craddock has carried out a minute revision of the text of the first edition, and has incorporated many refinements of presentation and style, of the importance of which he has a lively appreciation.

The chapters on articulators and on centric occlusion and centric relation are particularly good. The latter incorporates an admirable account of the movements of the mandible, and the author succeeds in bringing the proponents and opponents of the use of anatomical articulators on to common ground where argument is possible, instead of the usual long-range sniping from prepared positions. It is well shown here how reference to anatomical principles is the touchstone for the validity of technique, and Professor Craddock's assessment of the limits of accuracy of clinical measurements and the effect of these limits on the efficiency of prosthetic restorations is clear and logical. One would welcome, however, a similarly vigorous discussion of incisal guidance and muscular habit, in their reference to the edentulous, and the section is incomplete for lack of any mention of the use of mutually abrasive bite rims to ascertain empirically a functional plane of occlusion.

The section on partial dentures is helpful, but is a disappointingly small fraction of the book. A more extended treatment of this subject and its very lively problems (e.g., methods and value of prior bite analysis) would do much to reconcile a contradiction between the title of the book and its content, for the author's own careful definition of Prosthetic Dentistry as dealing with artificial replacements of missing teeth demands a fuller treatment of bridgework and partial dentures. Since it is quoted with approval that "the first step in the loss of all the teeth is the unrestored loss of one", it is unfortunate that the book devotes itself to the final catastrophe.

There are a few points of terminology that should be corrected, for instance, the use of "pear-shaped areas" for retromolar pads, and the use of the expression "condensation of bone". "Tenso-friction" deserves a word of explanation—and, perhaps, of extenuation.

On questions of pathology, it is not clear why the author should maintain that destruction of bone by disease and disturbance of its structure by poor function should be peculiar to the alveolar ridges, and that "it is difficult to think of any situation which positively forbids" the use of immediate insertion dentures.

S. F. F.

BOOK NOTICES

[*The undermentioned books have been received, and will be reviewed in subsequent issues.*]

EXODONTIA. By M. Hillel Feldman, D.D.S., F.I.C.A., New York. With a Chapter on Dental Malpractice Jurisprudence by Michael A. Hayes, A.B., LL.B., Member of the New York Bar. Fourth edition. $6 \times 9\frac{1}{4}$ in. Pp. 290, with 322 illustrations. 1951. London: Henry Kimpton. 46s.

INTERNATIONAL DENTAL JOURNAL, Vol. I, No. 3, March, 1951. London: Cassell & Co. Ltd. 12s. 6d.; yearly £2 5s.

THE DENTIST'S REGISTER, 1951. $6\frac{5}{8} \times 9\frac{3}{4}$ in. Pp. 429 + xlii. London: Constable & Co. Ltd. (For the Dental Board of the United Kingdom). 18s.

PERIODONTIA. Clinical Pathology and Treatment of the Periodontal Tissues. By Edgar D. Coolidge, B.S., M.S., D.D.S., LL.D., Chicago, and Maynard K. Hine, M.S., D.D.S., Chicago. $6 \times 9\frac{1}{4}$ in. Pp. 318, with 219 illustrations and 2 coloured plates. 1951. London: Henry Kimpton. 42s.

OFFICIAL SUPPLEMENT OF THE

SURGICAL INSTRUMENT MANUFACTURERS' ASSOCIATION (INC.)

DENTAL LABORATORIES SECTION

Chairman: E. G. EMMETT, F.I.B.S.T.
Administrative Offices: 6, HOLBORN VIADUCT, LONDON, E.C.1
Telephone: CITY 6031

No. 4 July, 1951

Editorial Committee: MR. C. M. BOOTH; MR. H. J. POTTER, F.I.B.S.T.

EDITORIAL

IN which way have you so far been affected by the recent Budget? Information reaching us from members as far apart as Scotland, Wales, and London indicates that the position is still fluid; it would appear that the repercussions have yet to be experienced.

Meanwhile we still learn of the "cheapest ever" type of laboratories closing down, but those of some substance, those who have always endeavoured to treat their calling as a complete and real craft, continue to flourish. This they will continue to do whilst the majority of practitioners take the very sound and long view, and demand a high standard appliance. The practitioner realizes that his reputation must be at stake, more now than ever before. Are not patients now suggesting to their friends "you should go to Mr. So-and-So"? Rapidly diminishing is the advice "you'll have to wait months if you go to *him*".

Meanwhile, we are confronted with new teeth which, we are informed, are of excellent quality! Surely the time has arrived when all branches of the profession must link up without delay, to make a statement of their requirements not only in moulds of teeth but also in quality. The manfacturers, we feel sure, would welcome this co-operation. We should *not* have anteriors foisted upon us and be informed that we must use them with posteriors of a certain kind whether we like them or not! *No*, materials must be the concern of all who use them.

And now, with the summer season upon us, are you closing your Laboratory during the Annual Staff Holiday, or are you continuing a part service? Anyway we trust you will all return full of earnest ideals, and that you will be determined to implement them.

A METHOD OF PROCESSING ACRYLICS

With reference to Mr. Potter's article in our May Supplement, Mr. Mather writes:—

I feel that as I do not disagree with you, it would be helpful to confirm some points which I consider very important.

I think that "reconsideration of accepted manipulative technique" is overdue, because to-day one sees quite peculiar techniques being used which are alleged to be the accepted technique, but which have gradually come about as a result of over familiarity with the material which is being used.

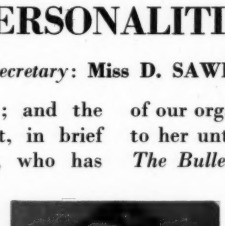
The other point which I heartily endorse is the over emphasis of high pressure being needed for flask closure. When sufficient volume of dough is packed at its correct consistency into a flask at room temperature the pressure needed to consolidate the denture base should be between 1600 and 2000 lb. Pressures in excess of these figures tend to introduce other problems which are all too well known to us, such as raised bites, fractured investments, etc.

I would like to see more articles of this description because they stimulate constructive discussions.

PERSONALITIES

The Assistant Secretary: **Miss D. SAWERS,** F.I.B.S.T.

"She grew with the Association; and the Association grew with her"—that, in brief is the story of Dorothy Sawers, who has been Assistant Secretary to S.I.M.A. since 1928, and every year makes her value more appreciated. The prelude to her efficiency was in attending the Surrey College at Brixton Hill, and then the final insight for business training was acquired at Pitman's Central School. An introduction to Trade Association problems was gained as an employee of the National Union of Manufacturers in various departments which later led her to act as Secretary to a number of affiliated Trade Associations and finally to become permanently attached to S.I.M.A. The growth of our organization is in no small measure due to her untiring efforts, her own inspiration of *The Bulletin* is the forerunner of our Supplement, and her willingness to co-operate with Branch Secretaries in their organizing functions was proved in the success of our Conference Week-end. Also under her wing has been the Institute of British Surgical Technicians, to which she has been Secretary since its inception in 1934, and which marked its appreciation with an Honorary Fellowship in 1950. Spare time, and she actually does find some, goes in service to her church work and the youth movement attached to it, with reading and gardening as a relaxation from the hurly-burly of 6, Holborn Viaduct.



NEWS FROM HEAD OFFICE

Ratio of Apprentices.—Due to the excessive influx of apprentices into the craft, during the past two years, the trade unions considered it necessary that the N.J.C. should take drastic action to safeguard, as far as possible, the future of apprentices. It was estimated that there were at present 2500 boys registered with the N.J.C.—700 in London alone—and it was extremely doubtful whether many of them would eventually find employment as technicians. Accordingly the trade unions recommend a complete closure of the register for a period and then an adjustment of the ratio. A subcommittee of the N.J.C. had been appointed to seek guidance on the matter from the Ministry of Labour. Meanwhile the employer's side of the N.J.C. have the matter under consideration.

Representation on National Joint Council.—It was noted that the B.D.A. are to consider the question of additional representation for the S.I.M.A. on the N.J.C.

Local Joint Training Committees.—It was reported that the N.J.C. had conceded the right of S.I.M.A. to membership of Local Joint Training Committees and provision has been made for this in the model Constitution.

Reduction of Working Hours.—This matter is in abeyance pending the submission to the N.J.C. of statistical information from the trade unions in support of their claim for a shorter working week.

Wages Application.—The unions continue to press for an increase in the minimum wage and the matter is still being considered.

Abolition of Grade III.—The trade unions regard the abolition of Grade III as a vital matter and are prepared to take it to the National Arbitration Tribunal.

Dental Technicians' Bill.—It is understood that there is little prospect of the draft Bill being proceeded with for some time in view of the heavy legislative programme before the Government.

Standardization of Materials.—In reply to its offer to participate in the standardization of dental materials, the Association has been informed by the British Standards Institution that, in the event of any conference being convened relative to this subject, the S.I.M.A. would be given the opportunity of participating.

Chrome Cobalt Alloys.—It was decided to continue the negotiations with the licensors of these materials with a view to arriving at a satisfactory agreement and a meeting between the legal representatives on both sides has been recommended. Members considering taking up a licence for these materials are urged to consult our legal adviser before entering into any agreement.

Advertising Scheme.—The subscribed response to the Advertising fund has been most encouraging. Members who have not yet subscribed are requested to so without delay.

The Fair List of Laboratories is now published in booklet form and distribution will be effected shortly.

Applications for Membership.—

The following applicants for membership were recommended to the Council for election as members.

FULL MEMBERS

Thompson and Nicholson, 38, Arkwright Street, Nottingham.

T. W. Hughes, 100a, High Street, Stockton-on-Tees.

D. E. Capes, New Court, Priestpopple, Hexham.

A. J. Jarrett, 70, High Street, Chislehurst.

R. Summerfield, 7, Brownsville Road, Heaton Moor, Stockport.

Affiliated Members transferred to Full Membership

Sheffield Dental Laboratory, 230, St. Philip's Road, Sheffield 3.

V. C. Perkins, 16, Benton Road West, Ilford, Essex.

Baker's Dental Laboratory, Keppel Lodge, West Street, Emsworth.

AFFILIATED MEMBERS

E. O. Nichols, 9, Lodge Drive, Yardley, Birmingham 26.

R. S. Metcalf, 569, Meanwood Road, Leeds 7.

Central Dental Laboratory, 3, Drewton Street, Bradford.

Bull and Chaplin, 2, Shaftesbury Mews, Stratford Road, W.8.

NEWS FROM THE BRANCHES

London Regional Branch.—The Annual General Meeting of the London Regional Branch was held at 6, Holborn Viaduct, London, E.C.1., on Thursday, April 19, at 6.30 p.m.

A well attended meeting heard and favourably received the Chairman, Mr. E. G. Emmett, who presented a report of the year's activities; also the presentation of accounts by the Treasurer, Mr. A. Wheeler. On the election of the Committee, Mr. G. Paul was voted as a new member, other members elected having previously served.

A general discussion on a variety of topics relative to the branch, and views of members followed.

South Wales and Monmouthshire Branch.—At a meeting held on May 3, 1951, members expressed their surprise in the delay of the publication of the Fair List, and again reiterated their concern about the proposed Dental Technicians' Bill.

As insufficient members had been enrolled to warrant the establishment of a West Wales Branch, it was decided that members in this area should still be retained in the South Wales and Monmouthshire Branch.

Liverpool and District Branch.—A meeting of the Branch took place on Friday, June 22, at the S. S. White Lecture Hall, Islington Square, Liverpool 3, at 3.30 p.m.

In the evening at 7.30 p.m., in the same Hall, a demonstration was held under the auspices of the Branch, the subject being Orthodontics, and the lecturer J. Angelman, Esq., H.D.D., L.D.S. R.C.S.

Croydon Branch.—A special meeting was held on May 9, to discuss the new Branch Constitution to enable the Branch representative to report to the Main Committee on the following day. It was agreed that subject to one or two items which affected this Branch in particular being clarified, the meeting was in favour of the adoption of what was considered would be of advantage to all branches.

The ordinary business meeting on May 25 was poorly attended and very little was accomplished other than to discuss the minutes of the previous meeting; the branch representative's report on the Main Committee meeting of May 10 followed.

IS THIS WHAT YOU ARE LOOKING FOR?

"Formica" for the Dental Laboratory and Surgery

A problem often confronting dental technicians is in obtaining a suitable material for covering work benches, particularly the plaster bench. When visiting a large laboratory owned by one of our members, the writer found a new plastic material known as "Formica" covering work benches.

Inquiry showed that experiments by the manufacturers have proved that Formica is hard wearing, germ-proof, and easily cleaned. In addition to these qualities, Formica is highly resistant to wear, is not marked by spilling acids, oils, or alkalis, and is unaffected by temperatures up to 120° C. All these advantages emphasize its superiority as a covering material for work benches.

The range of colours available is wide enough to match any colour scheme, and varies from a deep cherry mahogany to pale blue and grey linette.

Formica is also being used in hospitals, dispensaries, and surgeries, where both its durability and its bright, clean good looks have proved of great value. Existing surfaces may be covered with the minimum disorganization and trouble. Cutting the sheet is a simple operation, so that its fitting is not disturbed by already-fixed equipment such as taps, or gas and electrical points.

Holes may be cut to precise measurements, thus avoiding ill-fitting areas with gaps where liquid and dirt might collect.

Other uses of Formica in the surgery or laboratory include instrument trolley tops, linings for cupboards and drawers, and hygienic vertical surfaces, e.g., whole doors and walls which can be cleaned by the swift wipe of a cloth.

Inquiries should be made direct to the manufacturers, Thomas De la Rue & Co. Ltd., Imperial House, 84/86, Regent Street, London, W.1.

S.I.M.A. (DENTAL LABORATORIES SECTION) DIARY

North-Eastern Branch (*Secretary*: Mr. F. Pearson, 100, Morley Street, Bradford).—Meeting, July 14, at York.

North-Western Branch (*Secretary*: Mr. W. Mayall, 15, King Street, Accrington, Lancs).—Meeting, August 26, at Windermere.

Croydon Branch (*Secretary*: Mr. H. J. Nowers, F.I.B.S.T., 86, Croydon Road, Beddington, Croydon).—Meeting, September 28, at The Six Bells, Handcroft Road, Croydon.